इंटरनेट मानक

Disclosure to Promote the Right To Information

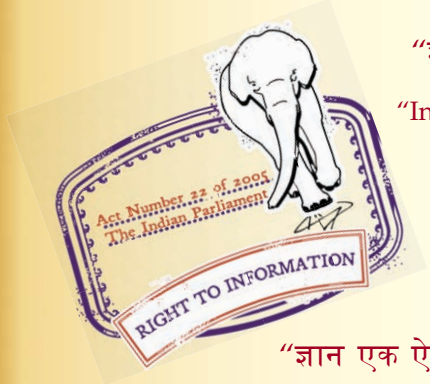
Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 5858-1 (1970): Accessories to Mechanical Ventilation Systems on Board Ships, Part I: Non-return Valves [TED 17: Shipbuilding]

"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"



"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

BLANK PAGE

PROTECTED BY COPYRIGHT

IS : 5858 (Part I) - 1970
(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR ACCESSORIES TO MECHANICAL VENTILATION SYSTEMS ON BOARD SHIPS

PART I NON-RETURN VALVES

(First Reprint NOVEMBER 1983)

UDC 621.646.248:629.12.06

© *Copyright* 1971

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 2

July 1971

Indian Standard

SPECIFICATION FOR ACCESSORIES TO MECHANICAL VENTILATION SYSTEMS ON BOARD SHIPS

PART I NON-RETURN VALVES

Shipbuilding Sectional Committee, EDC 56

Chairman	*Representing*
SHRI S. PARMANANDHAN	Indian Navy
Members	
CDR S. P. AGARWALA	Ministry of Defence (DGI)
SHRI N. BALASUBRAMANIAM	Voltas Ltd, Bombay
SHRI R. S. MITAL (*Alternate*)	
SHRI P. K. BANERJEE	The Institute of Marine Engineers, Bombay
SHRI K. K. BANERJEE (*Alternate*)	
SHRI A. S. BONDALE	Garden Reach Workshops Ltd, Calcutta
SHRI N. CHAKRAVARTI	The Institute of Marine Engineers, Bombay
SHRI S. A. H. RIZVI (*Alternate*)	
CHIEF MECHANICAL ENGINEER, THE COMMISSIONERS FOR THE PORT OF CALCUTTA	Inter Port Consultations Secretariat Cell, Calcutta
CHIEF MECHANICAL ENGINEER, BOMBAY PORT TRUST (*Alternate*)	
SHRI P. L. D' ABREO	The Institute of Marine Engineers, Bombay
SHRI V. V. JAMES (*Alternate*)	
SHRI V. G. DAMLE	AFCO Ltd, Bombay
SHRI R. D. PARALKAR (*Alternate*)	
SHRI B. HILL	Lloyd's Register of Shipping, Calcutta
SHRI D. B. IRANI	Directorate General of Shipping (Ministry of Parliamentary Affairs, Shipping and Transport), Bombay
SHRI S. KASTHURI	The Institute of Marine Engineers, Bombay
SHRI PARTAP CHANDRA KUMAR	The Institute of Marine Engineers, Bombay
SHRI V. K. DESAI (*Alternate*)	
SHRI G. K. KURIYAN	Central Institute of Fisheries Technology, Ernakulam
SHRI M. VELU (*Alternate*)	
SHRI KJELL LINDH	SF India Ltd, Calcutta
SHRI G. SINHA (*Alternate*)	
SHRI K. N. G. MENON	The Shipping Corporation of India Ltd, Bombay; *and* The Institute of Marine Engineers, Bombay
CAPT R. D. KOHLI (*Alternate*)	The Shipping Corporation of India Ltd, Bombay
SHRI B. S. SOOD (*Alternate*)	The Institute of Marine Engineers, Bombay

(*Continued on page* 2)

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI

(*Continued from page* 1)

Members	*Representing*
SHRI I. N. PRADHAN	The Indian National Shipowners' Association, Bombay
DR T. S. RAGHURAM	Indian Engineering Association, Bombay
SHRI T. S. RAJAN	Ericson & Richards, Bombay
SHRI ANJAN ROYE	Institution of Marine Technologists, Bombay
SHRI K. N. G. MENON (*Alternate*)	
SHRI E. R. DASTOOR (*Alternate*)	
SHRI D. S. SHETH	Hindustan Shipyard Ltd, Visakhapatnam
SHRI M. G. KUTTY (*Alternate*)	
SHRI T. N. SUJAN	Larsen & Toubro Ltd, Bombay
SHRI S. S. TOMAR	Directorate General of Technical Development
SHRI M. V. PATANKAR, Director (Mech Engg)	Director General, ISI (*Ex-officio Member*)

Secretary

SHRI K. S. SUBRAMANIAM

Officer on Special Duty (Mech Engg), ISI

Marine Ventilation Subcommittee, EDC 56:2

Convener

SHRI D. B. IRANI	Directorate General of Shipping (Ministry of Parliamentary Affairs, Shipping and Transport), Bombay

Members

SHRI N. BALASUBRAMANIAM	Voltas Ltd, Bombay
SHRI R. S. MITAL (*Alternate*)	
DIRECTOR OF NAVAL CONSTRUCTION	Indian Navy
SHRI K. M. KAR	American Refrigerator Company Ltd, Calcutta
SHRI KUMAR RAY (*Alternate*)	
SHRI M. G. KUTTY	Hindustan Shipyard Ltd, Visakhapatnam
SHRI C. M. RAO (*Alternate*)	
SHRI B. V. RAO	SF India Ltd, Calcutta
SHRI G. SINHA (*Alternate*)	
CDR A. N. THUKRAL	Mazagaon Dock Ltd, Bombay
SHRI R. K. JASUJA (*Alternate*)	

Indian Standard

SPECIFICATION FOR ACCESSORIES TO MECHANICAL VENTILATION SYSTEMS ON BOARD SHIPS

PART I NON-RETURN VALVES

0. FOREWORD

0.1 This Indian Standard (Part I) was adopted by the Indian Standards Institution on 3 November 1970, after the draft finalized by the Shipbuilding Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 Non-return valves are provided in the mechanical ventilation systems on board ships when it is necessary to exclude effluvia for the safety of health of crew.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

---

1. SCOPE

1.1 This standard (Part I) specifies the material and the dimensions for non-return valves for use with mechanical ventilation systems on board ships.

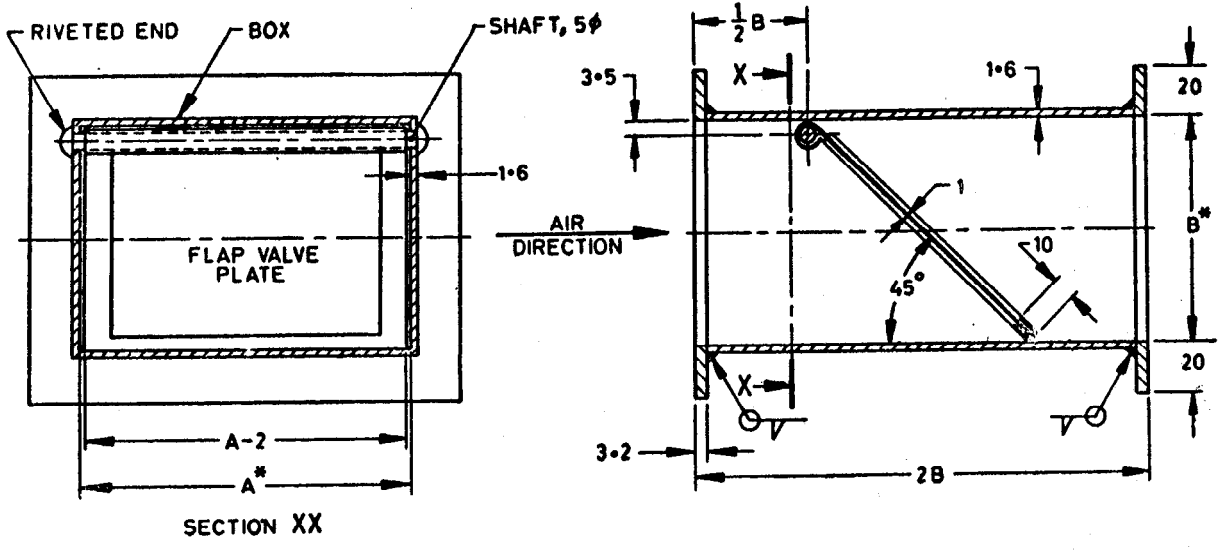
2. NOMENCLATURE

2.1 The nomenclature as shown in Fig. 1 shall apply.

3. CONSTRUCTION

3.1 The construction of non-return valves shall be as shown in Fig. 1.

*Rules for rounding off numerical values (*revised*).



*Internal dimensions *A* and *B* of the box shall conform to internal dimensions of air duct to which they are attached.

All dimensions in millimetres.

FIG. 1 DIMENSIONS FOR NON-RETURN VALVE

4. MATERIAL

4.1 The material used in the construction of non-return valves shall be as shown below:

Name of Part	*Material*	*Relevant Indian Standard*
Flap	Aluminium	IS: 736-1965*, Grade NP6
	Mild steel	IS: 226-1969†
	Mild steel	IS: 1977-1969‡
Shaft Box	Mild steel	IS: 1977-1969‡ IS: 226-1969†

4.1.1 All mild steel parts of the non-return valves shall be hot dip galvanized according to IS: 2629-1966§.

5. DIMENSIONS AND TOLERANCES

5.1 The dimensions of the non-return valves shall be as shown in Fig. 1.

5.2 The dimensions *A* and *B* of the box shall conform to the dimensions of the air duct to which they are attached.

5.2.1 The dimensions *A* and *B* shall be specified by the purchaser.

5.3 When the flap is made of aluminium, grooved stiffening shall be adopted.

5.4 The tolerances on machined parts shall be of coarse series according to IS: 2102-1969¶.

6. DESIGNATION

6.1 Non-return valves shall be designated by the title, the dimensions *A* and *B* together with the number of this standard.

Example:

Non-return valve of dimensions $A \times B$ shall be designated as:
Non-Return Valve $A \times B$ IS: 5858 (Part I)

---

*Specification for wrought aluminium and aluminium alloys, plate (for general engineering purposes) (*revised*).

†Specification for structural steel (standard quality) (*fourth revision*).

‡Specification for structural steel (ordinary quality).

§Recommended practice for hot-dip galvanizing of iron and steel.

¶Allowable deviations for dimensions without specified tolerances (*first revision*).

7. WORKMANSHIP

7.1 The valves shall be made in accordance with the best manufacturing process.

8. TESTS

8.1 The flap shall be tested for free fall and for proper operation.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	*Unit*	*Symbol*
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	*Unit*	*Symbol*
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	*Unit*	*Symbol*	*Conversion*
Force	newton	N	1 N = 1 kg. 1 m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 26 60 21, 27 01 31 **Telegrams : Manaksanstha**

Regional Offices:

		Telephone
Western : Novelty Chambers, Grant Road	BOMBAY 400007	37 97 29
Eastern : 5 Chowringhee Approach	CALCUTTA 700072	23-08 02
Southern : C. I. T. Campus, Adyar	MADRAS 600020	41 24 42

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur	AHMADABAD 380001	2 03 91
'F' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	2 76 49
Gangotri Complex, Bhadbhada Road, T.T. Nagar	BHOPAL 462003	6 27 16
22E Kalpana Area	BHUBANESHWAR 751014	5 36 27
Ahimsa Bldg, SCO 82-83, Sector 17C	CHANDIGARH 160017	2 83 20
5-8-56C L. N. Gupta Marg	HYDERABAD 500001	22 10 83
D-277 Todarmal Marg, Banipark	JAIPUR 302006	6 98 32
117/418 B Sarvodaya Nagar	KANPUR 208005	8 12 72
Patliputra Industrial Estate	PATNA 800013	6 28 08
Hantex Bldg (2nd Floor), Rly Station Road	TRIVANDRUM 695001	32 27

Reproduced by Reprography Unit, ISI, New Delhi